

Date: Friday, 1/25/2008 10:59:36 AM  
User: Kim Johnston

# Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 407 FWD X-TUBE
Job Number	: 37001	Part Number	: D407667105
Estimate Number	: 12348	Drawing Number	: D407-667-145 REV B
P.O. Number	:	Project Number	: N/A
This Issue	: 1/25/2008 S.O. No. :	Drawing Revision	: B
Prsht Rev.	: NC	Material	:
First Issue	: 1/1 Type : LANDING GEAR	Due Date	: 3/10/2008
Previous Run	: 37000	Qty	: 1 Um: Each
Written By	: <u>HA 08 01 25</u>		
Checked & Approved By	:		
Comment	: Est Rev: F 06.09.01 Add holes for compatibility with Bell Skidtubes KJ/JLM		



## Additional Product

Job Number: 

Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D407-667-105 CHG002

*Joe 10/04/08 08.02.28*

2.0	D6010115	Crosstube Material
-----	----------	--------------------



Comment: Qty: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty	Part number	Description	Batch
-----	-------------	-------------	-------

1	D6010-115	Crosstube	<u>832308</u>
---	-----------	-----------	---------------

Check OD = 2.250"; ID = 1.610"

*86 08.02.27 ①*

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
-----	------------	----------------------------



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8673on both ends as per Folio FA249

2-Turn first side as per Folio FA249

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D407-667-145.

*20 08/02/09*

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
-----	-----	------------------------------



Comment: INSPECT ALL DIM TO DIM SHEET

*20 08/02/09*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D407-667-105 PAR #: N/A Fault Category: Prod/Crosshubs NCR: Yes No DQA: D Date: 08/04/14  
 QA: N/C Closed: D Date: 08/04/14

NCR: 37001		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08.04.08	11	Both half spans are 0.210" UNDER NOMINAL	UP 08.04.08 pu QSI 042	Tune acceptable.	EL 8.3.14 17	08/04/08	UP 08.04.08 pu QSI 042	08/04/08

NOTE: Date & initial all entries

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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 407 FWD X-TUBE

Job Number: 37001

Part Number: D407667105

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA249

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D407-667-145.

3-Remove sand and plugs

4-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-145

Inside of Cuff(Donot engrave on outside of tube)

29 08/02/29

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

29 08/02/29

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

29 08/02/29

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

AWM

8-3-4

1-Polish entire outside surface of crosstube

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/03/04

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

AWM 8-3-4

11.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D407-667-145 using CNC bender program 407-fw and Folio FT016

8-3-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 10:59:37 AM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 407 FWD X-TUBE

Job Number: 37001

Part Number: D407667105

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

*0803-18 ①*  
*08.03.28*

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8541 & DT8542 as per Dwg D407-667-145. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8541 & DT8542 as per Dwg D407-667-145  
Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8541 & DT8542 as per Dwg 407-667-145. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8541 & DT8542 as per Dwg D407-667-145

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-145. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8787AFT as per Dwg D407-667-145.

8-C/sink holes as per Dwg D407-667-145. Allow rivet to sit below surface to compensate for paint.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D407-667-145

*EL/ID*  
*8-7-71*

*A. W. M.*  
*8-4-1*

14.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*ANM 8-4-1*

15.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*08/04/02*

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*08/04/02*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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## Process Sheet

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Drawing Name: 407 FWD X-TUBE

Job Number: 37001

Part Number: D407667105

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 0380r

Issue P/O: 6062 LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

*C2081041030*

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order.

*C28104103*

19.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D206-667-103

*mm 08 04 03*

*(1)*

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005, 4.2

*mm 08 04 03*

*(1)*

21.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

*4T 08-04-04*

22.0

D2856400

Abrasion Strip



Comment: Qty.: 1.2138 f(s)/Unit Total : 1.2138 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 6.94") Abrasion Strip 35900

*mm 08 04 04*

23.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-043 Nut Plate 36064

*mm 08 04 04*

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D407-667-105 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>37001</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>060107</u>	<u>280</u>	Tube was assembled opposite to the drawing. W/O states to assemble tube with 3 holes facing up	<u>QSIWZ</u>	dis-assemble & re-assemble as per dwg. remove the 3 hole note from all xxx-667-xxx cross tube estimates per PAR	<u>mm</u> <u>08 04 08</u>	<u>QSIWZ</u>	<u>QSIWZ</u>	<u>060107</u>

NOTE: Date & initial all entries



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Job Number: 37001

Part Number: D407667105

Job Number:



Seq. #:

Machine Or Operation:

Description :

29.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

30.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Pick Packing Kit

31.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch:

M106242 28

M106519

32.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Nut

Batch:

M106277

33.0

AN510A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

Batch:

M107013

34.0

AN530A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

4 AN5-30A

Bolt

M105144

35.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

18 AN960JD516

Washer

M106654

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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## Process Sheet

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Drawing Name: 407 FWD X-TUBE

Job Number: 37001

Part Number: D407667105

Job Number:



Seq. #:

Machine Or Operation:

Description :

36.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

08/04/08

37.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D407-667-105

Location:

PPP Rev:

Rev B

AS 08/04/08 (11)

38.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/04/09

Job Completion



**ENGINEERING  
APPROVAL**

POSITIVE RECALL

EFFECTIVE 08-03-25 AUTH JP

RELEASED 08-04-08 DATE JP

GET ENG. APPROVAL FOR  
DIMS OF BEND

B37001

MF 08-04-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 37001
<b>Description:</b> Crosstube Assembly	<b>Part Number:</b> D407-667-145
<b>Inspection Dwg:</b> D407-667-145 Rev: B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.245 ✓			
	1.865	+0.005/-0.000	1.870 ✓			
	1.878	+0.005/-0.000	1.880 ✓			
	1.970	+0.005/-0.000	1.973 ✓			
	2.030	+0.005/-0.000	2.032 ✓			
	2.165	+0.005/-0.000	2.168 ✓			
	0.125	+/-0.010	.125 ✓			
	R0.063	+/-0.010	.063 ✓			
	R0.500	+/-0.010	.500 ✓			
	R0.063	+/-0.010	.063 ✓			
	4.438	+/-0.010	4.438 ✓			
SIDE B	2.240	+0.005/-0.000	2.241 ✓			
	1.865	+0.005/-0.000	1.866 ✓			
	1.878	+0.005/-0.000	1.879 ✓			
	1.970	+0.005/-0.000	1.971 ✓			
	2.030	+0.005/-0.000	2.031 ✓			
	2.165	+0.005/-0.000	2.166 ✓			
	0.125	+/-0.010	.125 ✓			
	R0.063	+/-0.010	.063 ✓			
	R0.500	+/-0.010	.500 ✓			
	R0.063	+/-0.010	.063 ✓			
	4.438	+/-0.010	4.438 ✓			
	113.20	+/-0.020	113.195 ✓			

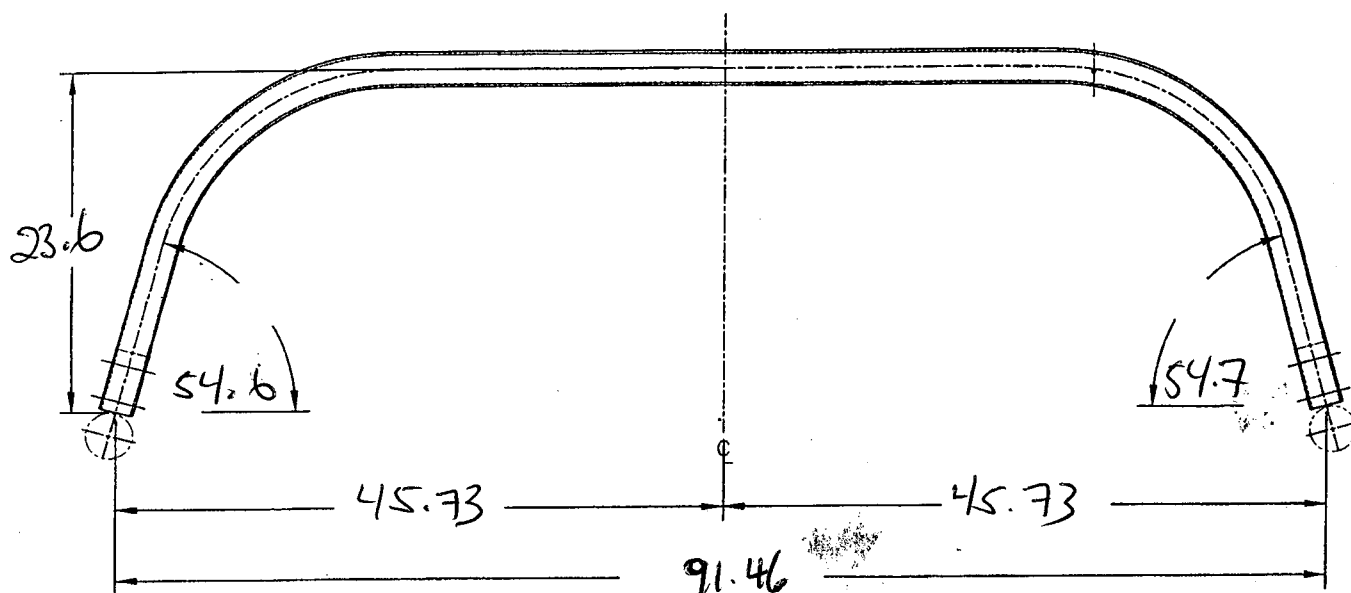
<b>Measured by:</b> [Signature]	<b>Audited by:</b> [Signature]	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 08/05/29	<b>Date:</b> 07.03.09	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	04.04.21	New Issue (P/O D407-667-105)	KJ/RF	
B	06.03.09	Dwg Rev updated	KJ/JLM [Signature]	[Signature]



DART AEROSPACE LTD		Work Order:	37001
Description: Crosstube High Fwd (407)		Part Number:	D407-667-105
Inspection Dwg: D407-667-145 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	23.48	23.60
1/2 Span	45.88	46.0
Angle	54	56
Total Span	91.76	92.0



Comments
TUBE IS SLIGHTLY NARROW BUT FITS OK IN DRILL JIG. HEIGHT IS GOOD. TUBE IS ACCEPTABLE

QC15 Inspection	<i>[Signature]</i>
Date	08.03.28

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM <i>[Signature]</i>	<i>[Signature]</i>

**DART**

DESIGN PH	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED DS	APPROVED DS	DRAWING NO. D407-667-145	REV. B SHEET 1 OF 3
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (407 HIGH FWD)	SCALE NTS
A	02.05.08	NEW ISSUE	
B	05.07.26	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED  
05-07-26UNDER REVIEW  
06-08-10  
re-draw detail  
PH  
07-06-19

Qty	Part Number	Description
X	D407-667-145	CROSSTUBE ASSEMBLY (407 HIGH FWD)
1	D6010-115	CROSSTUBE
2	D2856-400-694	ABRASION STRIP
2	D2873-043	NUT PLATE
2	D2873-045	NUT PLATE
2	D2891-1	SUPPORT
14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
4	MS21920-20	CLAMP

**GENERAL NOTES:**

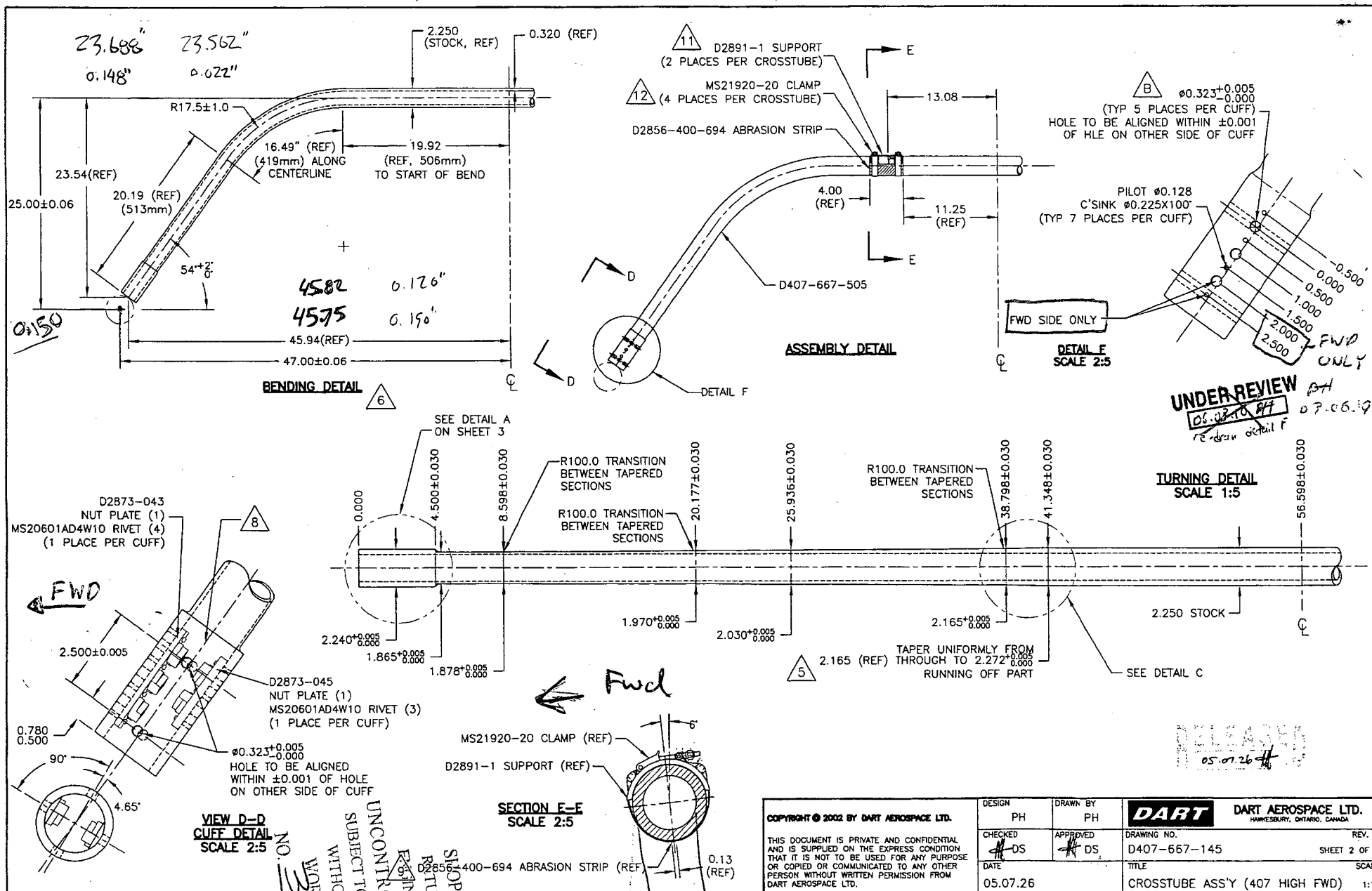
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6010-115  
FINISHED LENGTH = 113.20±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 6 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-694 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2891-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT (OPTIONAL).
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

SHOP COPY  
RETURN TO  
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UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 37001

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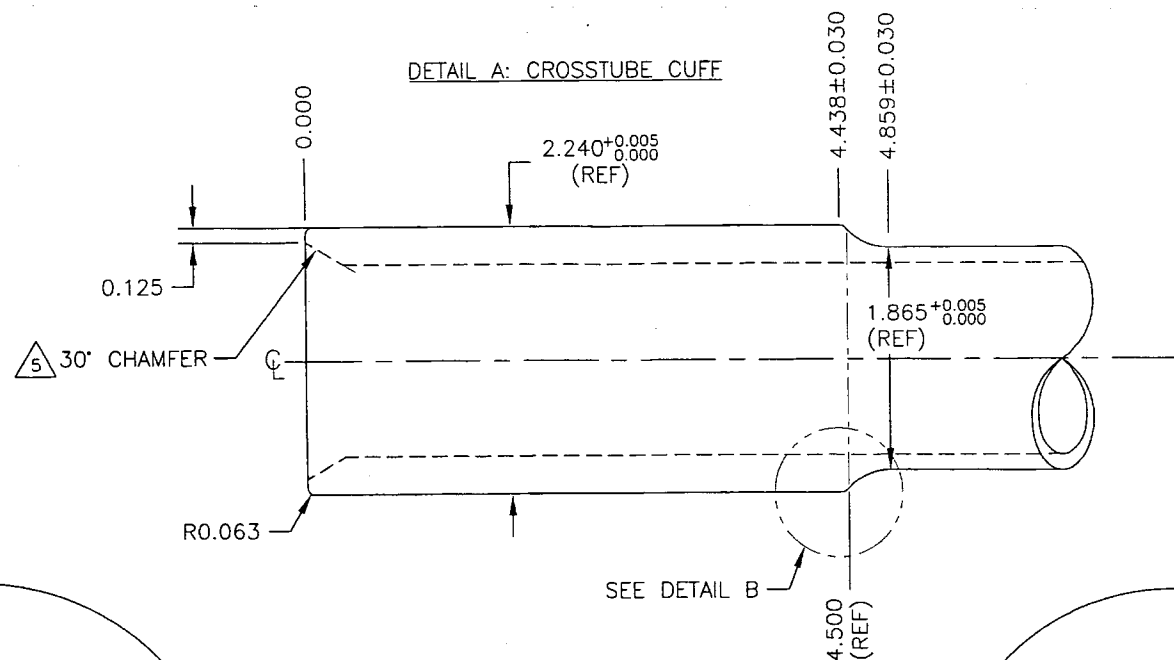
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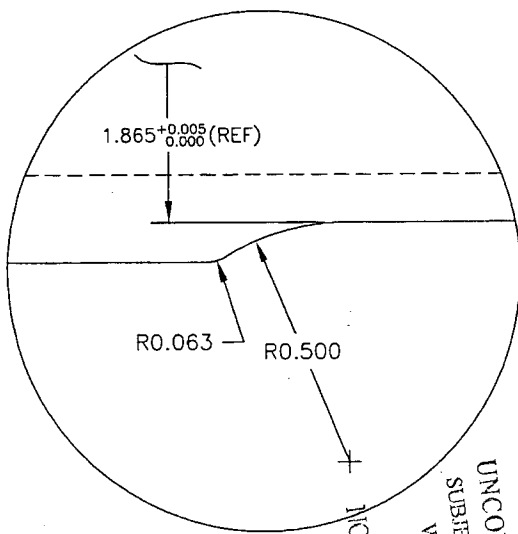
COPYRIGHT © 2002 BY DART AEROSPACE LTD.		DESIGN PH	DRAWN BY PH	<b>DART</b> DART AEROSPACE LTD. HAMPSHIRE, ONTARIO, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED # DS	APPROVED # DS	DRAWING NO. D407-667-145
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (407 HIGH FWD)		REV. B SHEET 2 OF 3 SCALE 1:10

NO. 37001  
 WORK ORDER  
 WITHOUT NOTICE  
 SUBJECT TO AMENDMENT  
 UNCONTROLLED COPY  
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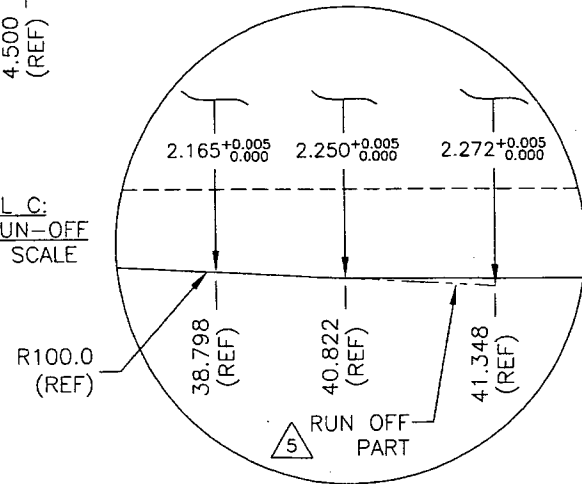


UNDER REVIEW PH  
 05-07-10 PH  
 Re-draw Detail F 07.06.10

RELEASED  
 05-07-26



DETAIL B: CUFF  
 TRANSITION  
 SCALE 4:1



DETAIL C:  
 TAPER RUN-OFF  
 NOT TO SCALE

SHOP COPY  
 RETURN TO  
 ENGINEERING  
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 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 NO. 39001  
 WORK ORDER

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	CHECKED	<del>PH</del> DS	APPROVED	<del>PH</del> DS		DRAWING NO.	REV. B
	DATE	05.07.26				D407-667-145	SHEET 3 OF 3
			TITLE	CROSSTUBE ASS'Y (407 HIGH FWD)		SCALE	1:1

23,688 23,562  
45.75 45.92



# LIQUID PENETRANT TEST REPORT

P - 1263 1

ACUREN

CLIENT	DART AEROSPACE	DATE	APR 3, 2008	PAGE	1	OF	1
ATTENTION	LINDA LACELLE	ACUREN JOB No.	188 08 1263	TIME	AM <input type="checkbox"/>	PM <input type="checkbox"/>	
ADDRESS	1270 ABERDEEN ST	PO/VO No.	6062				
	HAWKESBURY, ONT.	WORK LOCATION	HAWKESBURY				
		ACCEPTANCE STD.	ASTM 1417/QSI-038	REV./DATE	2005		
PROJECT	407 FWD X TUBE, 212/205 HIGH AFT/FED X TUBE,						
ITEM(S) EXAMINED	JOB #S 407-37001, 37004, 212/205-37056, 37058, 37689, 37690.						

JOB DESCRIPTION	PROCEDURE No. LT-0002	REV./DATE	TECHNIQUE No. LT-TECH2	REV./DATE
PART No. D407667105/D212664201/D212664101	MATERIAL ALODINED ALUM.		THICKNESS	
SCOPE WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE				

## TEST DETAILS

METHOD	<input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND	MAGNAFLUX		BLACK LGHT8171	<input type="checkbox"/> OUTPUT > 1000 $\mu$ W/cm <sup>2</sup>	<input type="checkbox"/> AMBIENT < 2 fc
PENETRANTZL67	MINIMUM DWELL TIME	45 MIN.	LIGHTING EQUIP.	<input type="checkbox"/> FLASHLIGHT	<input type="checkbox"/> TROUBLELIGHT
PENETRANT REMOVER H2O	MINIMUM DRY TIME	>10 MIN.	OTHER	CAL FEB 12 08	
DEVELOPER SKDS2	MINIMUM DWELL TIME	10 MIN.	LIGHT METER S/N	CAL DUE DATE	
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY		

## TEST SURFACE

SURFACE CONDITION	<input type="checkbox"/> AS GROUND	<input type="checkbox"/> AS WELDED	<input type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/ 20°F	<input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F	<input type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F	

## RESULTS- ( ☐ METRIC ☒ IMPERIAL )

FLUORESCENT LIQUID PENETRANT INSPECTION

CARRIED OUT ON 100% EXTERNAL

SURFACE ON:

407 FWD X TUBE JOB#S: 37001, 37004.

212/205 HIGH AFT X TUBE JOB#S: 37056, 37058.

212/205 HIGH FED X TUBE JOB#S: 37689, 37690.

RESULTS: NO INDICATION OF DEFECTS.

ITEMS ACCEPTABLE TO STANDARD

## Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner operator and the owner operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

## Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

## SIGNATURES

CLIENT REPRESENTATIVE		DTR# E21525	
TECHNICIAN (SIGNATURE):		REPORT REVIEWED BY:	
NAME (PRINT):	JASON HEWETT	NAME INITIALS	
	1 <sup>ST</sup> TECHNICIAN	2 <sup>ND</sup> TECHNICIAN	
CGSB LEVEL	2	CGSB LEVEL	SNT LEVEL
CGSB REG. No	6156	CGSB REG. No	

WHITE - CLIENT COPY

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